

BIPV - An opportunity for additional growth in the European PV sector



EU Council Building – Brussels - ISSOL

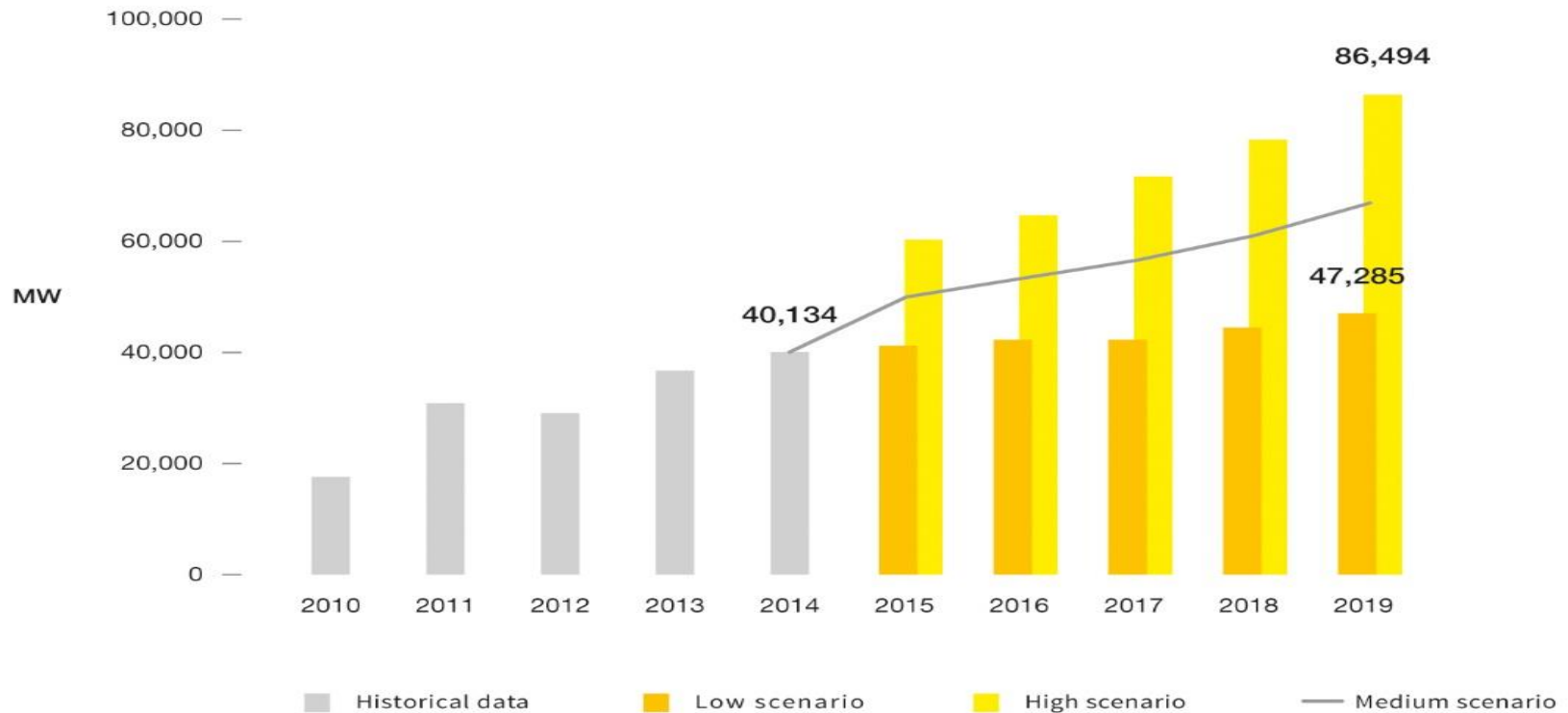
**Gaëtan Masson, EU PV Technology Platform Vice-Chairman
Director @ Becquerel Institute**

Changing Times...



A Growing PV Market

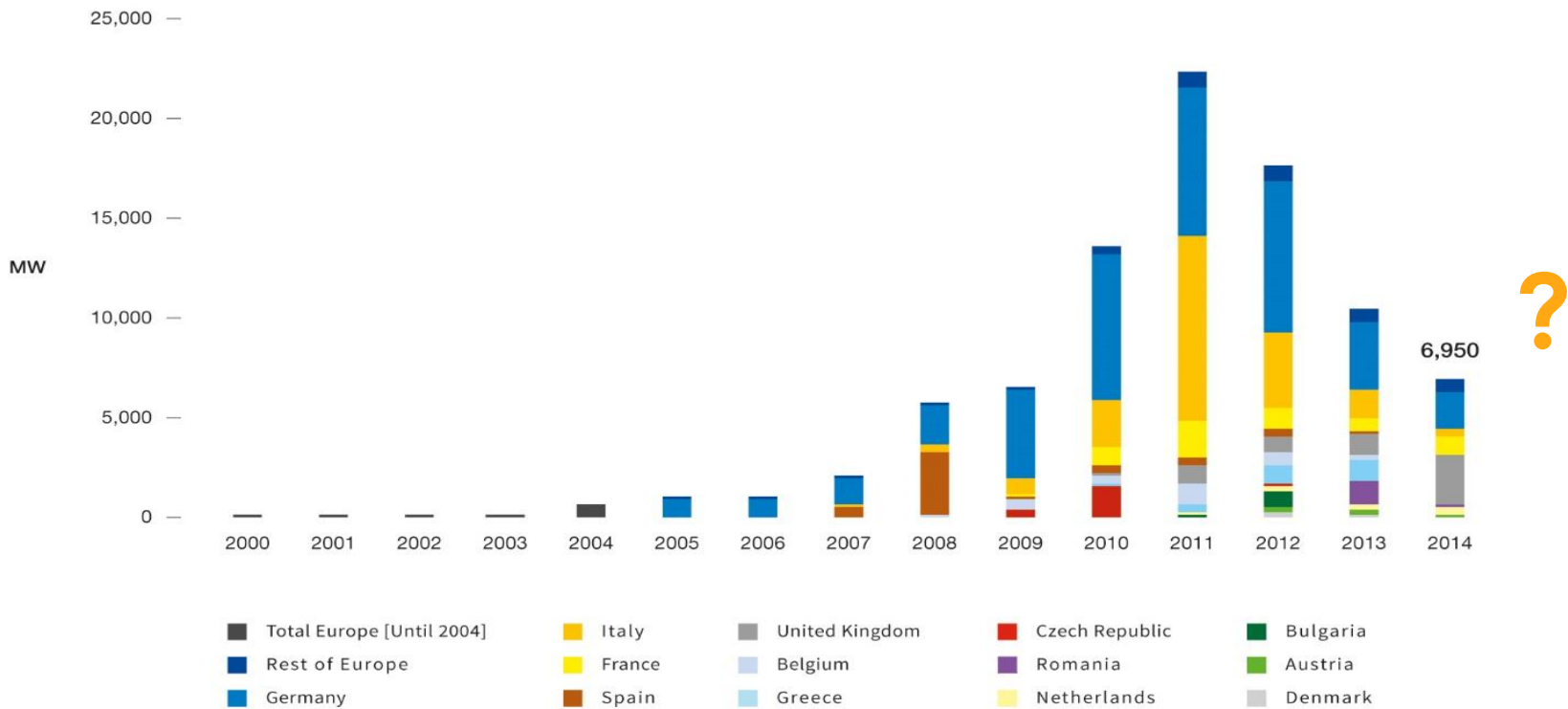
GLOBAL SOLAR PV ANNUAL MARKET SCENARIOS UNTIL 2019



Solar Power Europe – Global Market outlook 2015

A Complex EU Market

EVOLUTION OF EUROPEAN SOLAR PV ANNUAL INSTALLED CAPACITY 2000-2014

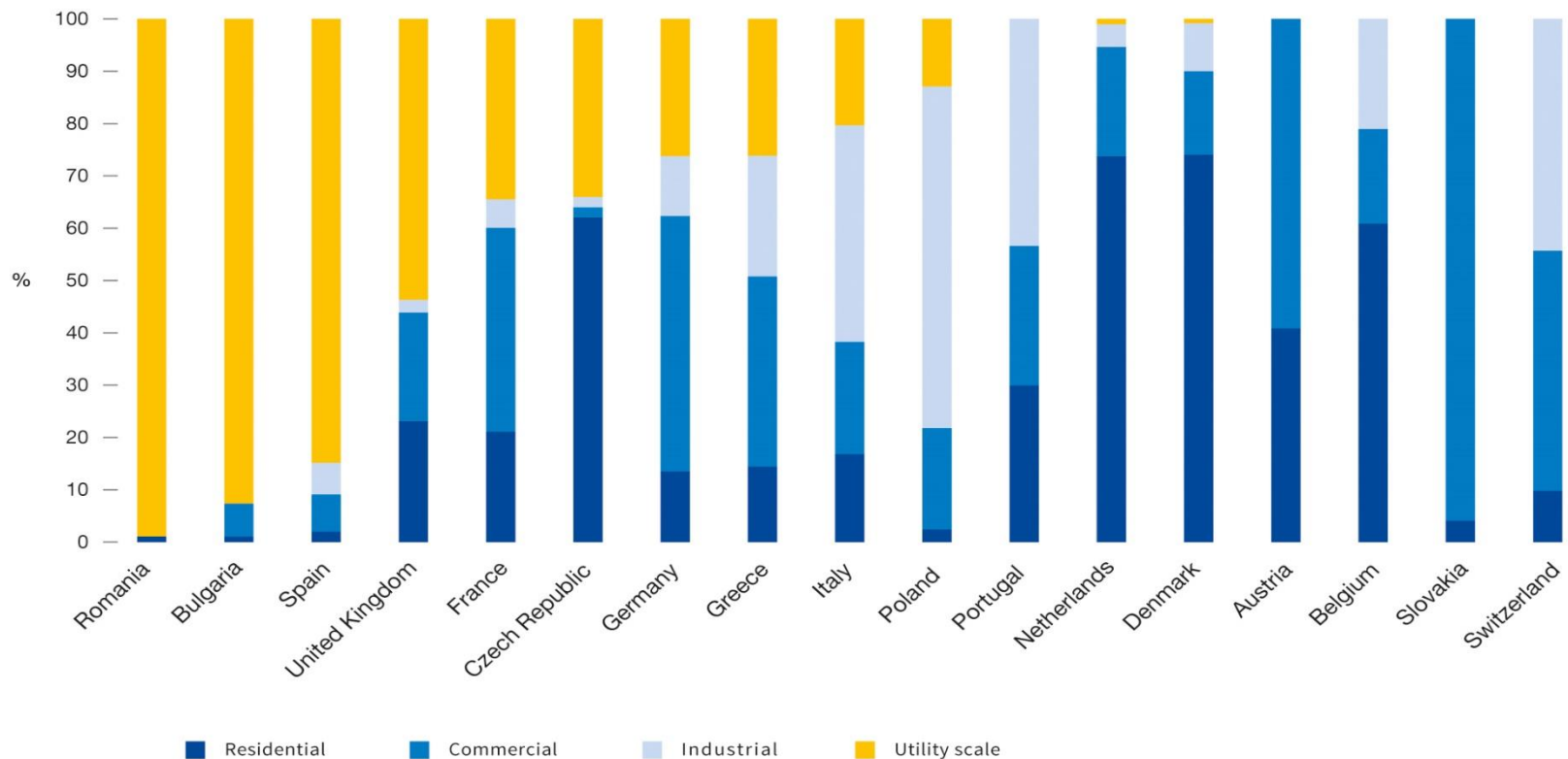


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Distributed PV Dominates

EUROPEAN SOLAR PV CUMULATIVE CAPACITY SEGMENTATION BY COUNTRY IN 2014



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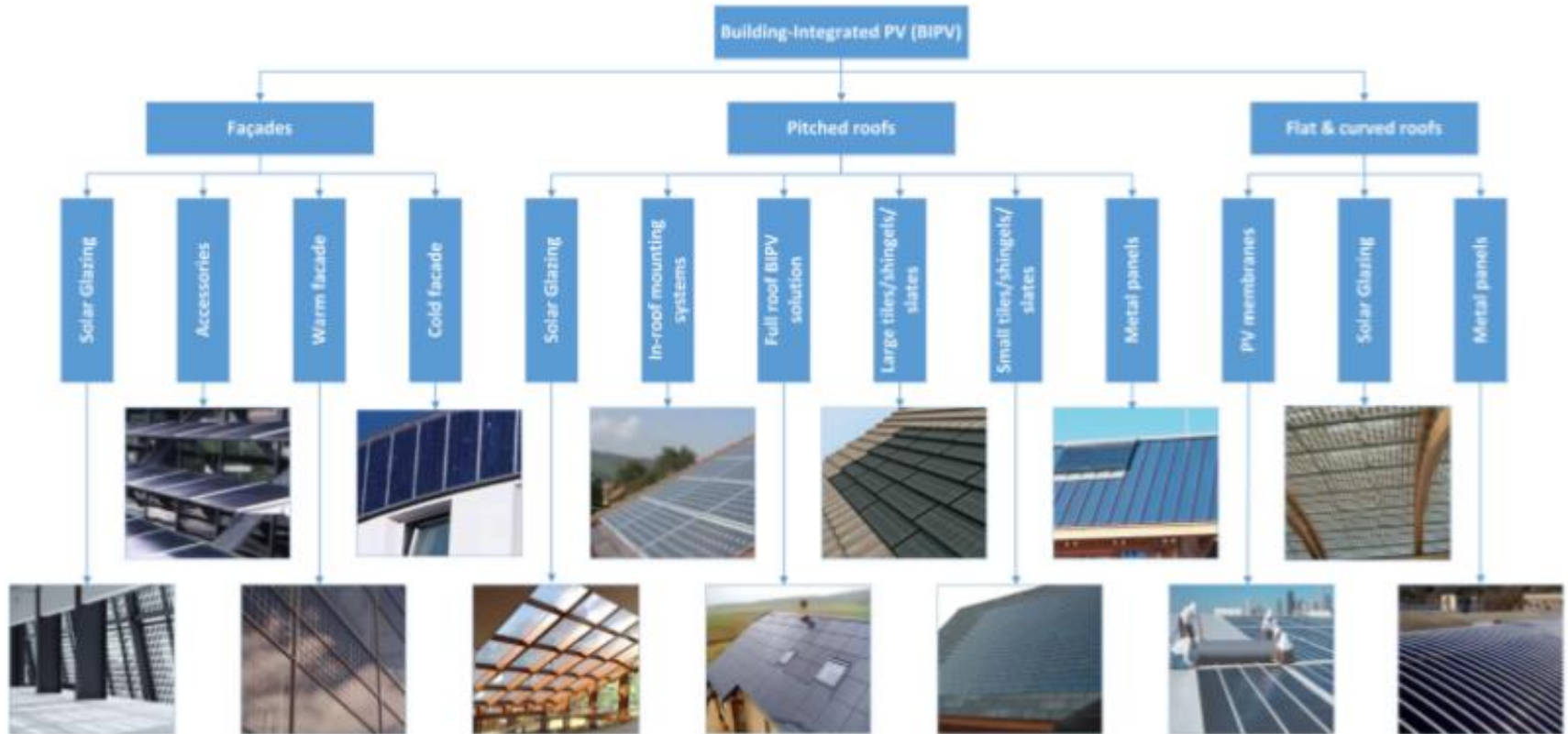
Solar Power Europe – Global Market outlook 2015

BIPV ?

“The acronym BIPV refers to systems and concepts in which the **building element** has an additional function, namely **producing electricity**”



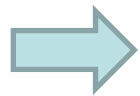
Classification Example



From BAPV to BIPV



From BAPV on Buildings



Bespoke Architectural BIPV



Standardized BIPV



The Success of (BA)PV

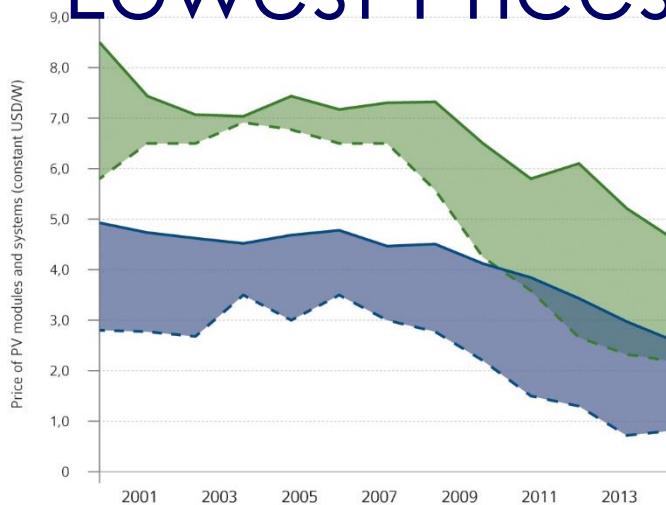
Simple concept



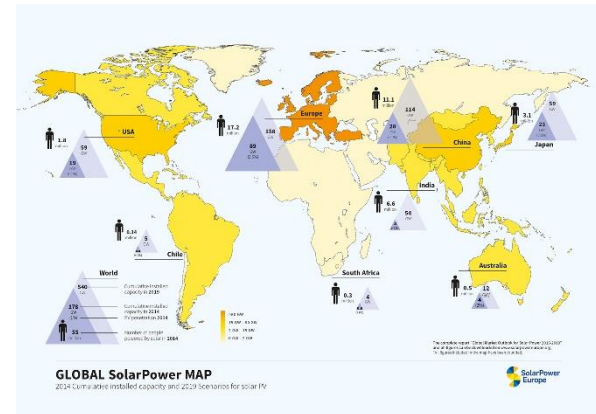
Volumes



Lowest Prices

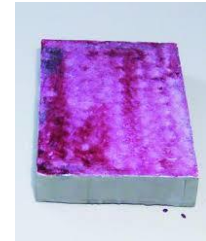
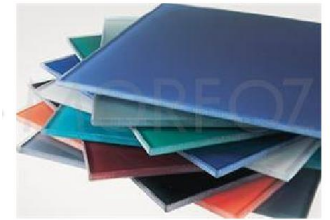
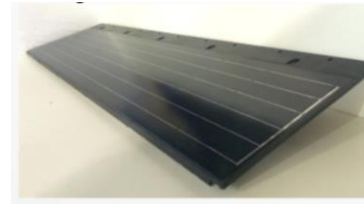


Global Market



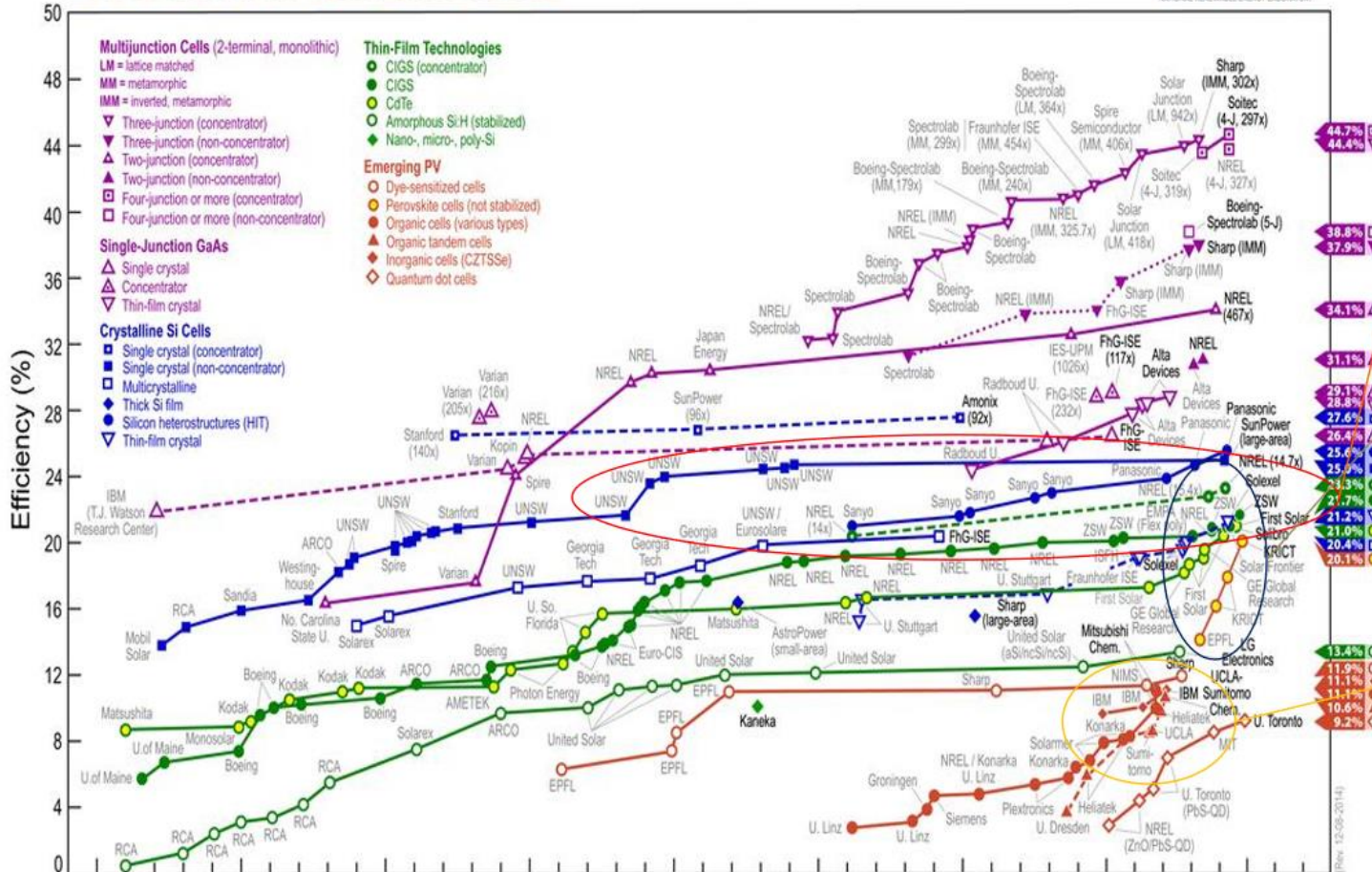
Standardized BIPV

- Standard Building Components with a PV capability.
- Tiles or shingles
- Glass, metal, plastic façades
- Flat & curved roofs components
- Concrete elements
- Prefabricated elements



The (BI)PV Technologies

Best Research-Cell Efficiencies



Multi
Mono c-Si
Flattening

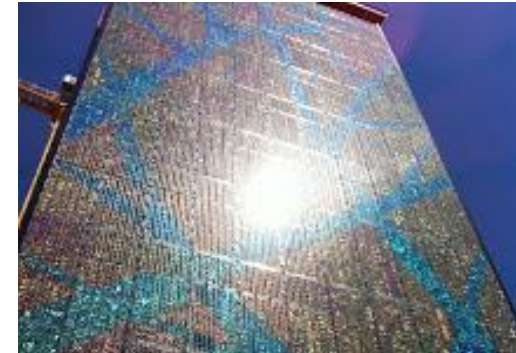
CIGS
CdTe
Perovskite
Strongly
Improving

OPV

Solliance

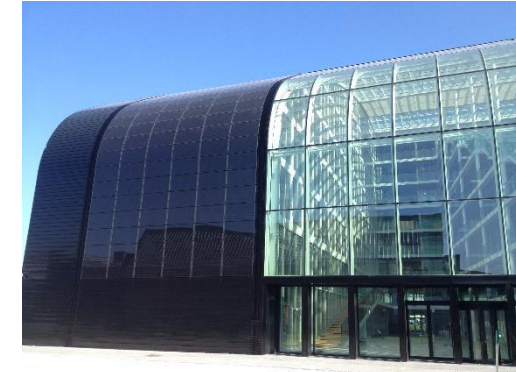
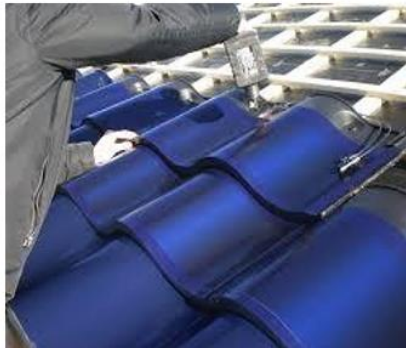
PV Capabilities

Semi-Transparent



Flexible

Rigid

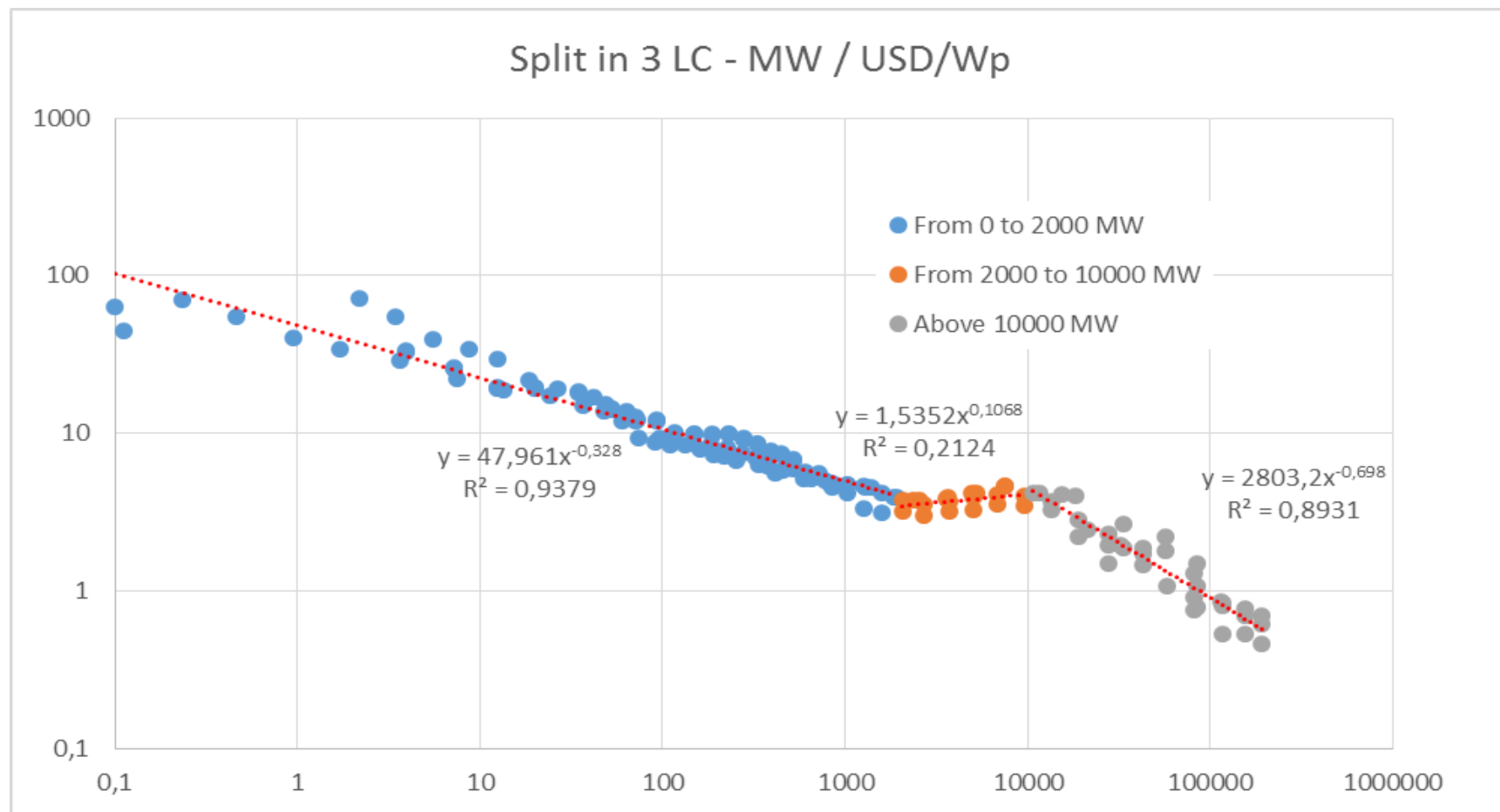


Solliance

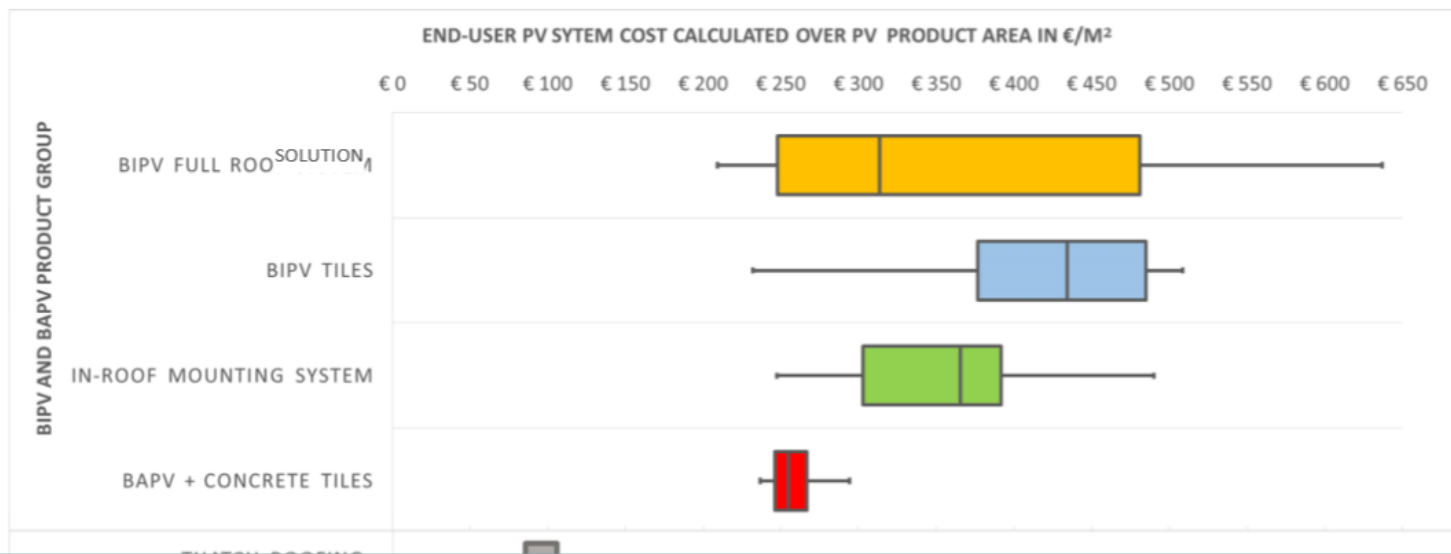
Opaque / Non-Transparent

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Competitiveness



Residential BIPV Roof



Case:

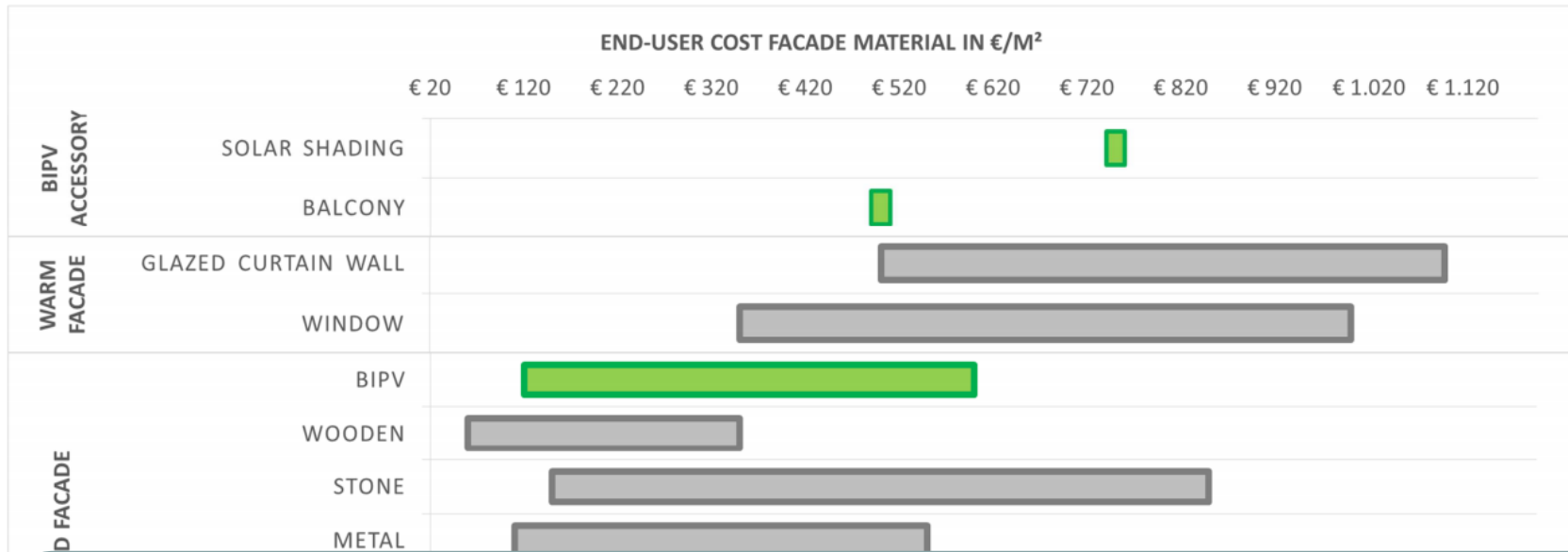
BIPV 3 kW CAPEX with PV tiles: 7000-9000 EUR – 300-450 EUR/m²

Non-PV roof: 50-100 EUR/m²

Diff: = 200-400 EUR/m²

PV electricity production (20y - 100% SC - WACC 4%): 300 EUR/m²

Competitiveness of BIPV Façades



Case:

BIPV glass façade: 220 EUR/m²

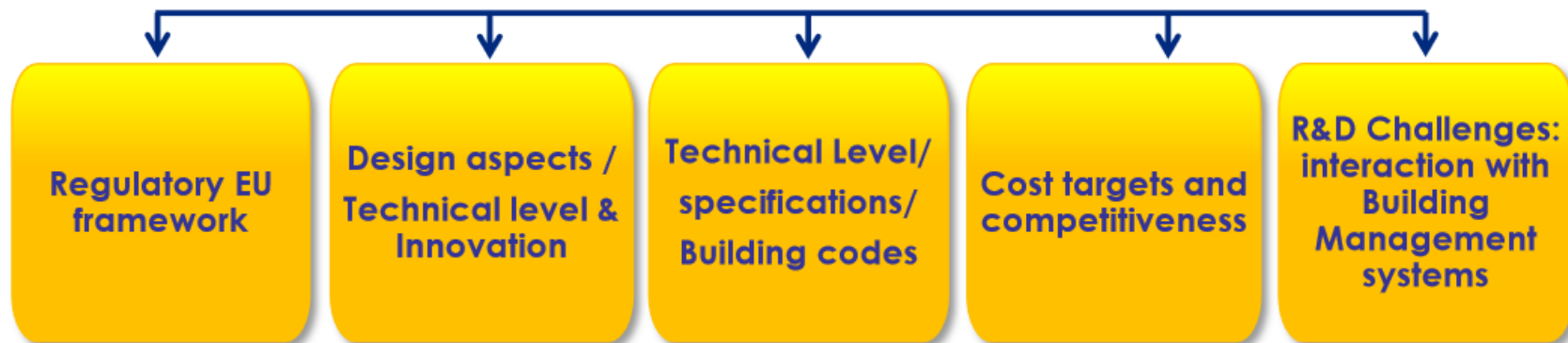
Non-PV double glazing façade: 180 EUR/m²

Diff: = 40 EUR/m²

PV electricity production (20y - 100% SC - WACC 4%): 175 EUR/m²

Conclusions

- BIPV is already a competitive solution for some building segments
- Industrialization is necessary to lower costs
- An option for bringing the PV industry back to Europe.
- EU PV Technology Platform BIPV activities



Thank you for your attention

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